

Application No. 10/759,128

**IN THE DRAWINGS:**

Enclosed is a new formal drawings of Fig. 3, accompanied by a LETTER TO THE OFFICIAL DRAFTSPERSON. In Fig. 3, the reference numeral "205" has been deleted.



## **REMARKS**

### **Claim Rejections**

Claims 1-10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sakurai et al. (U.S. Patent 6,447,879). Claims 1-3, 5, 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. as applied to claim 1, and further in view of Li et al. (US. Patent 6,197,720). Claims 1-6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al. as applied to claim 1, and further in view of Shofner (U.S. Patent 6,300,631).

### **Amendments to Specification**

Applicant has amended the Specification as noted above to cure obvious grammatical and idiomatic inaccuracies and to provide proper antecedent basis in the specification for reference numerals "18" and "20". It is believed that the foregoing amendments to the Specification overcome the outstanding objections thereto. No "new matter" has been added to the original disclosure by the foregoing amendments to the Specification.

### **Drawings**

Applicant has amended Fig. 3, as illustrated on the attached formal drawing, accompanied by a LETTER TO THE OFFICIAL DRAFTSPERSON. Figure 3 was amended to remove the reference number "205" that was not discussed in the specification. No "new matter" has been added to the original disclosure by the amendments to these figures. It is believed the foregoing proposed amendments obviate the outstanding objections to the drawings. Entry of the corrected drawing is respectfully requested.

### **New Claims**

By this Amendment, Applicant has canceled claims 2 and 11-16, amended claim 1, and added new claims 17-25 to this application. It is believed that the new and amended claims specifically set forth each element of Applicant's invention in



full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

The present application generally relates to a sample of organic light emitting diode (OLED) for transmission electron microscope examination.

The primary reference to Sakurai et al. relates to an organic EL device and a method of manufacturing the same, and is partly relates to the application.

The secondary reference to Li et al. relates to a preparation of transmission electron micro scope samples.

The secondary reference to Shofner relates to a method of focused ion beam, are also partly relating to the present invention.

The applicant respectfully submits that the cited documents only represents the invention background of the present application.

The present application states, in the Description of the Prior Art, paragraph [0005], lines 9-10: "To have a better examination result, it is always inevitable to make the examined sample as thinner as possible." Clearly, the traditional concept is the thinner the sample is, the clearer the resolution of the sample image is (mentioned in the same paragraph). Among this traditional concept, Shofner teaches, column 2, Lines 29-31: "milling the membrane in the sample to a thickness of about 0.1 to about 0.2 micrometer thickness." Likewise, Li et al. teaches, column 6, lines 55-60: "The membrane may be milled, using a focused ion beam, into a rectangle having approximately 0.05-0.2 $\mu$ m thickness". Therefore, the cited prior art fit within the traditional concept.

Li et al. teaches the sample thickness can be as thin as 0.05  $\mu$ m, which agrees with the Description of the Prior Art of the present application, paragraph [0005], lines 3-4, which states: "By using a focus ion beam (FIB), the sample preparation can be made thinner down to less 0.1 micrometers."

The cited prior art not only fit within the traditional concept "to make the examined sample as thinner as possible" mentioned in the Description of the Prior Art of the application, the cited prior art also confirms that the examined samples are usually made of a thickness not thicker than 0.2  $\mu$ m.

According to the above reasons, the applicant submits that the cited documents only represents the invention background of the present application.



Whereas in the present application, the examined sample has a thickness which is thicker than  $0.2\text{ }\mu\text{m}$ . As shown in paragraph [0021] of the application, "...by controlling the thickness of the OLED sample approximately within a predetermined range ( $0.2\text{ }\mu\text{m}$  to  $0.3\text{ }\mu\text{m}$ ), the opportunity of striking right at molecules of the organic layer (10) by transmitting electron beam is increased, so that a clear inner structure image of the OLED sample can be obtained."

Therefore, the applicant considers the traditional concept of making the examined sample to be as thin as possible to be wrong. Because when the examined sample is too thin, the opportunity of striking right at molecules of the organic layer by transmitting electron beam is decreased.

Please refer to the attached experiment photos (Photos 1-4 attached):

Photo 1 shows the diffraction image of the OLED sample (with a thickness about  $0.1\text{ }\mu\text{m}$ ) according to the present application.

Photo 2 shows the diffraction image of the OLED sample (with a thickness about  $0.2\text{ }\mu\text{m}$ ) according to the present application.

Photo 3 shows the diffraction image of the OLED sample (with a thickness about  $0.2\text{ }\mu\text{m}$ ) according to the present application.

Photo 4 shows the diffraction image of the OLED sample (with a thickness about  $0.33\text{ }\mu\text{m}$ ) according to the present application.

The applicant submits these experiment photos are strong evidence showing an un-expected result according to the present application. Wherein, the diffraction image of the OLED samples are much more clear within the claimed thickness range (between  $0.2\text{ }\mu\text{m}$  and  $0.3\text{ }\mu\text{m}$ , as shown in photo 2 and photo 3). As shown in photo 1, a diffraction image of the OLED sample with a thickness about  $0.1\text{ }\mu\text{m}$  (smaller than the claimed thickness range) and as shown in Fig. 4, another diffraction image of the OLED sample with a thickness about  $0.33\text{ }\mu\text{m}$  (larger than the claimed thickness range). Both Figs. 1 and 4 show more cloudy images.



The method of the present application is distinguishable from the cited prior art. The present subject matter as a whole would not have been obvious at the time the invention was made to a person having ordinary skill in the art.

Furthermore, according to the present application, an un-expected result has been achieved. As shown in the application, "...a clear inner structure image of the OLED sample can be obtained."

The applicant has added new claims 17-25 to limit the claimed subject matter to an OLED sample having a thickness is larger than 0.2  $\mu\text{m}$  but not exceeding 0.3  $\mu\text{m}$ . The claimed range of thickness is within the range appearing in the original application. Therefore, no new matter issue is occurred. The applicant respectfully submits that the new added independent claim (claim 17) of this communication is sufficiently distinguishable from the cited documents. The overlapping thickness 0.2  $\mu\text{m}$  between the present application and the cited documents has been removed.

The applicant submits that neither Sakurai et al., Li et al., nor Shofner disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's new claims.

### **Summary**

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

Date: June 21, 2005

By:

  
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